USING THE TEACHING GOALS INVENTORY (TGI)

TO

IMPROVE TEACHING EFFECTIVENESS

by

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The national debate about education, which escalated in 1983 with the publication of *A Nation at Risk* by the National Commission on Excellence in Education, continues with a reexamination into the teaching and learning processes employed at all levels of education in the United States. *A Nation at Risk* cited the quality of teaching and learning as the primary issue of concern regarding education. Quality remains the major educational issue and warrants answers to two fundamental questions: (1) How effectively are teachers teaching? and (2) How well are students (a) learning? and (b) able to perform in higher education institutions, in professional schools, and on-the-job?

The first question results from a continuous debate regarding the appropriate balance between research and teaching in academe as well as how to evaluate teaching and appropriately reward faculty members for "good" teaching. Many higher education institutions are beginning to assist faculty members to become more effective facilitators of learning through a linkage of professional initial and continuation training programs.

The second question is being addressed by the assessment movement, which is gaining momentum across the United States. The public is becoming increasingly concerned about being asked to pay higher taxes while not perceiving proportional increases in the performances of students and graduates. Political pressures are being applied to higher education institutions to better prepare teachers for service in elementary and secondary schools. Consequently, a majority of state governments have mandated assessments of higher education institutions. Most colleges and universities have responded by initiating assessment programs to determine the effectiveness of their educational programs. However, Angelo and Cross (1993) found that faculty members are not fully involved in the assessment processes. Consequently, the results of institutional assessments are rarely implemented in the classroom and are not making a discernable difference.

This paper reviews the utility of employing the Teaching Goals Inventory (TGI) to link classroom assessment efforts with teaching goals (Angelo and Cross, 1993). Faculty members of higher education institutions may conveniently use the TGI to enhance teaching effectiveness through assessing student learning.

Angelo and Cross wrote *Classroom Assessment Techniques, 2nd ed.* for use by faculty members of higher education institutions. *Classroom Assessment Techniques, 2nd ed.*, published in 1993 as part of the Jossey-Bass Higher and Adult Education Series, provides a thorough insight into the Classroom Research Project.

Classroom Assessment is a component of the Classroom Research Project.

The basic premise of the Classroom Research Project is teachers can learn how students learn by systematically observing students engaged in various acts of learning. Angelo and Cross introduced the concept that classrooms can be used as laboratories to observe and study students for the purpose of modifying instructional methodologies and techniques to make them more effective.

From a practical perspective, the Classroom Research Project began when Angelo and Cross devised flexible tools, called Classroom Assessment Techniques (CATs), for use by any teacher in any institution of higher education. The tools were designed to provide feedback for use by teachers and students regarding the progress of learning in the classroom. Teachers can modify and adapt the CATs to meet the specific needs of their classrooms.

From 1986 to 1988, the Classroom Research Project, under Cross' direction, was supported by: The National Center for Research to Improve Postsecondary Teaching and Learning (NCRIPTAL), the Harvard Graduate School of Education, and the Harvard Seminar on Assessment. Since 1988, Classroom Research has been funded by the Ford Research Foundation and the Pew Charitable Trusts.

What Is Classroom Assessment?

Through frequent, regular, and detailed observation of students engaged in various learning processes, the collection of student feedback on their learning experiences, and the use of classroom experimentation, faculty members can learn how students learn and, more importantly, how students react to various teaching techniques. Armed with this information, faculty members can then redirect their efforts to teaching students in more effective ways.

Classroom Assessment is designed to assist faculty members to define what students are learning in the classroom and how well they are learning. Classroom Assessment is rooted in a recognition of good teaching practice. Angelo and Cross acknowledge that faculty members already collect data on their students' performances and use the information to improve teaching practices.

Furthermore, all true professions are built upon the assumption that practitioners have the knowledge and judgment to be effective in their fields. Classroom Assessment is based upon the assumption that faculty members must enjoy autonomy, academic freedom, and the free exercise of professional judgment. Consequently, under the guidelines of Classroom Assessment, each faculty member is given freedom in deciding what to assess, how to assess, and how to respond to the data collected during any assessment.

Because of the focus on learning, Classroom Assessment requires active participation of students and faculty members. Students integrate efforts at mastering course content with developing self-assessment skills. Faculty members hone their professional teaching skills by searching for answers to these questions: "What are the essential skills and knowledge I am trying to teach? How can I find out whether students are learning them? and How can I help students learn better?"

(Angelo and Cross, 1993, p. 5).

Classroom Assessment is a formative evaluation tool. It's purpose is to improve the quality of classroom learning processes. Classroom Assessments are rarely graded and usually anonymous. They provide faculty members with the data to better prepare students to learn in the classroom and to perform outside the classroom. Lastly, Classroom Assessment is context-specific. Classroom Assessment recognizes that techniques which work in one classroom may not be appropriate for another classroom.

Goals and Assessments

To assess and improve teaching effectiveness, faculty members must know exactly what they want students to learn. Goals must be set. Without setting goals, there is no way to plot an appropriate course of action, determine course deviations, make timely corrections back to course, and to finally decide if the destination has been reached. Classroom Assessment begins with setting appropriate teaching goals.

Angelo and Cross (1993) devised the Teaching Goals Inventory (TGI) to help faculty members identify and clarify their teaching goals. With permission granted by the authors, photocopies of the self-scoring versions of the TGI and its worksheet are included in the appendix to this paper.

In 1986, Angelo and Cross began a literature search as the first step in the TGI's design and development phase. They found that relatively few researchers queried faculty members regarding what the faculty were trying to teach. Angelo and Cross recognized a research opportunity that would result in documenting what faculty members thought students should learn in their classrooms. This recognition represented TGI's genesis.

The initial version of the TGI was completed in 1986. It was administered to 200 randomly-selected full-time and part-time instructors employed by the Miami-Dade Community College. Angelo and Cross chose Miami-Dade for the first TGI pilot study because of its excellent reputation and because the college is one of the nation's largest and most diverse higher education institutions. The results of the study were discussed by Cross and Fideler (1988).

The second TGI pilot study was performed in 1988. Twenty-nine private and public colleges were selected nationwide. Work began on a third edition of the TGI in 1989. By 1990, the TGI was ready for its final test. A total of 2,824 faculty members (2,070 full-time and 754 part-time faculty) from 17 private four-year colleges and 15 public community colleges participated (Angelo and Cross, 1993). The final test succeeded in creating a mechanism for accurately determining teaching goals of higher education faculty.

Completing and Scoring the Teaching Goals Inventory

The TGI consists of 52 items corresponding to 52 distinct teaching goals. Fifty-one of the items incorporate a Likert scale including the following choices: "essential," "very important," "important," "unimportant," and "not applicable." The fifty-second item gives the respondent six choices from which to select the statement

that best describes the teacher's primary role.

The respondent is asked to select one academic course to focus on for the purposes of completing the TGI. The course must be one which the faculty member is currently teaching. The respondent then completes the TGI with respect to: (1) the selected course, and (2) what goals the faculty member intends to have students accomplish during the course.

The self-scoring worksheet provides immediate feedback on how many of the 52 goals the respondent rated as "essential." Many of the college teachers Angelo and Cross worked with were surprised by the number of goals they characterized as "essential." Some instructors subsequently reflected on whether 18 "essential" goals were too many to accomplish in one semester. Other teachers were confronted with the need to determine if three "essential" goals were too few to adequately challenge students throughout a semester.

Angelo and Cross (1993) observed large contrasts in total numbers of "essential" goals within departments and between faculty members teaching parallel sections of the same course. The TGI is credited for documenting these contrasts among colleagues for the first time.

Lastly, another way for faculty members to gain meaningful insights into their teaching goals is to determine the fit between the relative ranking of goal clusters and the primary teaching role selected in item 52. Faculty members may want to reexamine their teaching priorities if their primary teaching roles are not identical with their highest ranked goal clusters.

Since Angelo and Cross (1993) found large, statistically significant differences in the ratings given to the teaching goals given by faculty members of different courses, college departments and divisions would potentially benefit from performing independent analyses of TGI responses. In some cases, Angelo and Cross observed that departments may have targeted a few selected teaching goals to achieve agreement among faculty members. Other departments apparently decided to expose students to various teaching priorities by encouraging diversity among teaching goals.

In summary, the TGI is an excellent tool for faculty members to link teaching goals with improved teaching effectiveness and with enhanced student performance. Once faculty members begin to raise questions about the appropriateness and adequacy of their teaching goals relative to their impact on student learning and performance, a healthy dialogue between colleagues ensues. Angelo and Cross (1993) present research data which clearly indicate that this dialogue potentially results in an advancement in the study of learning processes and the subsequent improvement of teaching effectiveness.

What's Next in Classroom Assessment and Research?

If teaching is to become a true profession, teachers need to hypothesize why students respond the way they do to various instructional methodologies. Teachers need to deepen their understanding of the learning process, and they need to be able to explain how teaching affects learning.

It is recognized that most teachers

have neither the desire nor the time to become educational researchers. Rather, most teachers collectively personify Classroom Research in that they have: knowledge, the desire to teach, and have daily opportunities to observe students over a period of years. These teachers have unarticulated theories about how students best learn in their disciplines.

Therefore, the next step to take is in the realm of learning theory. Angelo and Cross suggest the formation of year-long study seminars that focus on relating or linking the participants' personal theories about learning to formally accepted theories which have been proposed after many decades of research. The participants of each seminar would read and make assigned presentations. Menges and Svinicki (1991) have offered some ideas and references for seminar readings and presentations. This author recommends that the seminars focus on one topic each year and address the topic from the perspectives of affective, behavioral, and cognitive theories.

The value of Classroom Research should be enhanced through the merging of teachers' personal theories with formal theories. The contributions of Classroom Assessment and Classroom Research will help teachers understand the impacts of their teaching on students' learning. This author expects experienced Classroom Assessors will use their skills and understanding to advance the study of learning and improve the practice of teaching.

Exhibit 2.1. Teaching Goals Inventory, Self-Scorable Version.

Purpose: The Teaching Goals Inventory (TGI) is a self-assessment of instructional goals. Its purpose is threefold: (1) to help college teachers become more aware of what they want to accomplish in individual courses; (2) to help faculty locate Classroom Assessment Techniques they can adapt and use to assess how well they are achieving their teaching and learning goals; and (3) to provide a starting point for discussions of teaching and learning goals among colleagues.

Directions: Please select ONE course you are currently teaching. Respond to each item on the inventory in relation to that particular course. (Your responses might be quite different if you were asked about your overall teaching and learning goals, for example, or the appropriate instructional goals for your discipline.)

Please print the title of the specific course you are focusing on:

_____

Please rate the importance of each of the fifty-two goals listed below to the specific course you have selected. Assess each goal's importance to what you deliberately aim to have your students accomplish, rather than the goal's general worthiness or overall importance to your institution's mission. There are no "right" or "wrong" answers; only personally more or less accurate ones.

For each goal, circle only one response on the 1-to-5 rating scale. You may want to read quickly through all fifty-two goals before rating their relative importance.

In relation to the course you are focusing on, indicate whether each goal you rate is:

(5)	Essential	a goal you always/nearly always try to achieve
(4)	Very important	a goal you often try to achieve
(3)	Important	a goal you sometimes try to achieve
(2)	Unimportant	a goal you rarely try to achieve
(1)	Not applicable	a goal you never try to achieve

Rate the importance of each goal to what you aim to have students accomplish in your course.	*Essential*	*Very Important*	*Important*	*Unimportant*	*Not Applicable*
1. Develop ability to apply principles and generalizations already learned to new problems and situations	5	4	3	2	1
2. Develop analytic skills	5	4	3	2	1
3. Develop problem-solving skills	5	4	3	2	1
4. Develop ability to draw reasonable inferences from observations	5	4	3	2	1
5. Develop ability to synthesize and integrate information and ideas	5	4	3	2	1
6. Develop ability to think holistically: to see the whole as well as the parts	5	4	3	2	1
7. Develop ability to think creatively	5	4	3	2	1
8. Develop ability to distinguish between fact and opinion	5	4	3	2	1
9. Improve skill at paying attention	5	4	3	2	1
10. Develop ability to concentrate	5	4	3	2	1
11. Improve memory skills	5	4	3	2	1
12. Improve listening skills	5	4	3	2	1
13. Improve speaking skills	5	4	3	2	1
14. Improve reading skills	5	4	3	2	1
15. Improve writing skills	5	4	3	2	1
16. Develop appropriate study skills, strategies, and habits	5	4	3	2	1
17. Improve mathematical skills	5	4	3	2	1
18. Learn terms and facts of this subject	5	4	3	2	1
19. Learn concepts and theories in this subject	5	4	3	2	1
20. Develop skill in using materials, tools, and/or technology central to this subject	5	4	3	2	1
21. Learn to understand perspectives and values of this subject	5	4	3	2	1

Exhibit 2.1. Teaching Goals Inventory, Self-Scorable Version, Cont'd.

Rate the importance of each goal to what you aim to have students accomplish in your course.	*Essential*	*Very Important*	*Important*	*Unimportant*	*Not Applicable*
22. Prepare for transfer or graduate study	5	4	3	2	1
23. Learn techniques and methods used to gain new knowledge in this subject	5	4	3	2	1
24. Learn to evaluate methods and materials in this subject	5	4	3	2	1
25. Learn to appreciate important contributions to this subject	5	4	3	2	1
26. Develop an appreciation of the liberal arts and sciences	5	4	3	2	1
27. Develop an openness to new ideas	5	4	3	2	1
28. Develop an informed concern about contemporary social issues	5	4	3	2	1
29. Develop a commitment to exercise the rights and responsibilities of citizenship	5	4	3	2	1
30. Develop a lifelong love of learning	5	4	3	2	1
31. Develop aesthetic appreciations	5	4	3	2	1
32. Develop an informed historical perspective	5	4	3	2	1
33. Develop an informed understanding of the role of science and technology	5	4	3	2	1
34. Develop an informed appreciation of other cultures	5	4	3	2	1
35. Develop capacity to make informed ethical choices	5	4	3	2	1
36. Develop ability to work productively with others	5	4	3	2	1
37. Develop management skills	5	4	3	2	1
38. Develop leadership skills	5	4	3	2	1
39. Develop a commitment to accurate work	5	4	3	2	1
40. Improve ability to follow directions, instructions, and plans	5	4	3	2	1
41. Improve ability to organize and use time effectively	5	4	3	2	1
42. Develop a commitment to personal achievement	5	4	3	2	1
43. Develop ability to perform skillfully	5	4	3	2	1
44. Cultivate a sense of responsibility for one's own behavior	5	4	3	2	1
45. Improve self-esteem/self-confidence	5	4	3	2	1
46. Develop a commitment to one's own values	5	4	3	2	1
47. Develop respect for others	5	4	3	2	1
48. Cultivate emotional health and well-being	5	4	3	2	1
49. Cultivate an active commitment to honesty	5	4	3	2	1
50. Develop capacity to think for one's self	5	4	3	2	1
51. Develop capacity to make wise decisions	5	4	3	2	1

52. In general, how do you see your primary role as a teacher?
(Although more than one statement may apply, please circle only one.)

1 Teaching students facts and principles of the subject matter

2 Providing a role model for students

3 Helping students develop higher-order thinking skills

4 Preparing students for jobs/careers

5 Fostering student development and personal growth

6 Helping students develop basic learning skills

Source: Classroom Assessment Techniques, by Thomas A. Angelo and K. Patricia Cross.

Exhibit 2.2. Teaching Goals Inventory, Self-Scoring Worksheet.

1. In all, how many of the fifty-two goals did you rate as "essential"? _____

2. How many "essential" goals did you have in each of the six clusters listed below?

	Cluster Number and Name	*Goals Included in Cluster*	*Total Number of "Essential" Goals in Each Cluster*	*Clusters Ranked—from 1st to 6th—by Number of "Essential" Goals*
I	Higher-Order Thinking Skills	1–8	_____	_____
II	Basic Academic Success Skills	9–17	_____	_____
III	Discipline-Specific Knowledge and Skills	18–25	_____	_____
IV	Liberal Arts and Academic Values	26–35	_____	_____
V	Work and Career Preparation	36–43	_____	_____
VI	Personal Development	44–52	_____	_____

3. Compute your cluster scores (average item ratings by cluster) using the following worksheet.

A		*B*	*C*	*D*	*E*
	Cluster Number and Name	*Goals Included*	*Sum of Ratings Given to Goals in That Cluster*	*Divide C by This Number*	*Your Cluster Scores*
I	Higher-Order Thinking Skills	1–8	_____	8	_____
II	Basic Academic Success Skills	9–17	_____	9	_____
III	Discipline-Specific Knowledge and Skills	18–25	_____	8	_____
IV	Liberal Arts and Academic Values	26–35	_____	10	_____
V	Work and Career Preparation	36–43	_____	8	_____
VI	Personal Development	44–52	_____	9	_____

Source: Classroom Assessment Techniques, by Thomas A. Angelo and K. Patricia Cross.

THE AUTHOR

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